

Attorne Docket No.: 049128-5042
Application No.: 09/993,522
Page 2

IN THE CLAIMS:

Kindly amend claims 5, 6, 13, 14, 15 and 19 as follows. A detailed listing of all claims is as follows.

Claim 1 (Original): A method of driving a liquid crystal display, comprising:
setting reference modulated data;
detecting a driving frequency of source data for a current frame; and
adjusting the reference modulated data in accordance with the detected driving frequency to modulate the source data.

Claim 2 (Original): The method according to claim 1, wherein the reference modulated data are set based on a desired reference frequency.

Claim 3 (Original): The method according to claim 1, further comprising:
dividing the source data into most significant bits and least significant bits; and
delaying the most significant bits for one frame period.

Claim 4 (Original): The method according to claim 3, wherein the delayed most significant bits are compared with current most significant bits to select the reference modulated data from a look-up table based on the compared result.

Claim 5 (Currently Amended): The method according to claim 1, wherein the reference modulated data (V_mdata) (VMdata) are adjusted in accordance with the driving frequency by

Attorn. Docket No.: 049128-5042
Application No.: 09/993,522
Page 3

using one of the following equations if the source data of the current frame become larger than that of a previous frame,

$$VMdata = LRef \times (Ft/Fref)$$

$$VMdata = LRef^{(Ft/Fref)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

Claim 6 (Currently Amended): The method according to claim 1, wherein the reference modulated data (VMdata) (VMdata) are adjusted in accordance with the driving frequency by using one of the following equations if the source data of the current frame become smaller than that of a previous frame,

$$VMdata = LRef \times (Fref/Ft)$$

$$VMdata = LRef^{(Fref/Ft)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

Claim 7 (Original): The method according to claim 1, wherein the reference modulated data bypass into an output stage if the source data of the current frame are equal to that of a previous frame.

Claim 8 (Original): A method of driving a liquid crystal display, comprising:
setting reference modulated data;
dividing a frequency band for each constant frequency band;

Attorne. Locket No.: 049128-5042
Application No.: 09/993,522
Page 4

setting a different weighting value for each frequency band;
detecting a driving frequency of source data;
determining the frequency band including the detected driving frequency; and
assigning a weighting value of the frequency band including the driving frequency to the
reference modulated data to adjust the reference modulated data, thereby modulating the source
data.

Claim 9 (Original): The method according to claim 8, wherein the reference modulated
data are based on a desired reference frequency.

Claim 10 (Original): A driving apparatus for a liquid crystal display, comprising:
a mode detector detecting a driving frequency of current source data; and
a modulator selecting reference modulated data from previously registered data and
adjusting the selected reference modulated data in accordance with the detected driving
frequency.

Claim 11 (Original): The driving apparatus according to claim 10, wherein the modulator
includes a frame memory delaying most significant bits of the current source data for one frame
period.

Claim 12 (Original): The driving apparatus according to claim 11, wherein the modulator
compares the delayed most significant bits with current most significant bits to select the
reference modulated data based on the compared result.

Attorne Docket No.: 049128-5042
Application No.: 09/993,522
Page 5

Claim 13 (Currently Amended): The driving apparatus according to claim 11, wherein the modulator adjusts the reference modulated data (VMdata) (VMdata) using one of the following equations if the current source data become larger than the delayed source data,

$$VMdata = LRef \times (Ft/Fref)$$

$$VMdata = LRef^{(Ft/Fref)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

Claim 14 (Currently Amended): The driving apparatus according to claim 11, wherein the modulator adjusts the reference modulated data (VMdata) (VMdata) by using one of the following equations if the current source data become smaller than the delayed source data,

$$VMdata = LRef \times (Fref/Ft)$$

$$VMdata = LRef^{(Fref/Ft)}$$

where LRef represents the reference modulated data, Fref is the reference frequency, and Ft represents the detected driving frequency.

Claim 15 (Currently Amended): The driving apparatus according to claim 10 11, wherein the reference modulated data bypass into an output stage if the current source data are equal to the delayed source data.

Claim 16 (Original): The driving apparatus according to claim 10, further comprising: a data driver applying data outputted from the modulator to a liquid crystal display panel;

Attorne Bocket No.: 049128-5042
Application No.: 09/993,522
Page 6

a gate driver applying a scanning signal to the liquid crystal display panel; and
a timing controller applying the current source data to the modulator and the mode
detector and controlling the data driver and the gate driver.

Claim 17 (Original): A driving apparatus for a liquid crystal display, comprising:
a mode detector detecting a driving frequency of current source data; and
a modulator selecting reference modulated data from previously registered data, setting a
different weighting value for each frequency band having a plurality of frequency ranges, and
assigning a weighting value of the frequency band including the detected frequency to the
reference modulated data.

Claim 18 (Original): The driving apparatus according to claim 17, further comprising:
a data driver applying data modulated by the modulator to a liquid crystal display panel;
a gate driver applying a scanning signal to the liquid crystal display panel; and
a timing controller applying the current source data to the modulator and the mode
detector and controlling the data driver and the gate driver.

Claim 19 (Current Amended): The driving apparatus according to claim 10, wherein the
modulator comprises: [[,]]

a frame memory storing most significant bits of a current frame and outputting the most
significant bits of a previous frame;
a reference look-up table comparing the current most significant bits with the previous
most significant bits and outputting reference modulated data; and

Attorne)ocket No.: 049128-5042
Application No.: 09/993,522
Page 7

an operator adjusting the reference modulated data, so that a response time of a liquid crystal is varied in accordance with a driving frequency.

Claim 20 (Original): A liquid crystal display comprising:

a liquid crystal display panel having a plurality of data lines and a plurality of gate lines thereon;

a mode detector detecting a driving frequency of current source data;
a modulator selecting reference modulated data from previously registered data and adjusting the selected reference modulated data in accordance with the detected driving frequency;

a data driver applying the data modulated by the modulator to the liquid crystal display panel;

a gate driver applying a scanning signal to the liquid crystal display panel; and
a timing controller applying the current source data to the modulator and the mode detector and controlling the data driver and the gate driver.

Claim 21 (Original): A liquid crystal display comprising:

a liquid crystal display panel having a plurality of data lines and a plurality of gate lines thereon;

a mode detector detecting a driving frequency of current source data;
a modulator selecting reference modulated data, setting a different weighting value for each frequency band having a plurality of frequency ranges and assigning a weighting value of the frequency band including the detected frequency of the reference modulated data;

Attorne Docket No.: 049128-5042
Application No.: 09/993,522
Page 8

a data driver applying the data modulated by the modulator to the liquid crystal display panel;

a gate driver applying a scanning signal to the liquid crystal display panel; and

a timing controller applying the current source data to the modulator and the mode detector and controlling the data driver and the gate driver.